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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/528,654   | 03/22/2005  | Masahito Tada        | 070795-0013         | 7124             |
| 20277  | 7590        | 10/03/2005           | EXAMINER            |                  |
| MCDERMOTT WILL & EMERY LLP<br>600 13TH STREET, N.W.<br>WASHINGTON, DC 20005-3096 |             |                      | WU, IVES J          |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 1713                |                  |

DATE MAILED: 10/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                      |                                    |  |
|------------------------------|--------------------------------------|------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/528,654 | <b>Applicant(s)</b><br>TADA ET AL. |  |
|                              | <b>Examiner</b><br>Ives Wu           | <b>Art Unit</b><br>1713            |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent-term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>9/22/05, 3/22/05</u>  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Objections*

- (1). Claim 6 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim 4 which the dependent claim 6 depends on is multiple dependent claim also.

### *Claim Rejections - 35 USC § 102/103*

- (2). The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

- (3). The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

(4). Claims 1-5, 7 and 8 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Tsutsumi et al (EP-508802A1).

(5). Tsutsumi et al (EP-508802A1) disclose a ferromagnetic copolymer and production of thin film. The thin film comprises a copolymer of vinylidene fluoride and trifluoroethylene (**claim 2**), the content of vinylidene fluoride is from 70 to 90 mol% (**claim 3**). An ether-based organic solvent is used to dissolve the copolymer to form the thin film thereafter (**claims 4 and 7**). The thin film exhibits residual polarization value and is capable of being applied to various display devices (**claim 8**) (Abstract).

(6). As to the scattered-light intensity measurement of a polyvinylidene fluoride copolymer to be 10 or lower in the **independent claim 1**, in view of the substantially identical polyvinylidene fluoride copolymer composition and process of making disclosed by applicant and Tsutsumi et al, such as carrying out the polymerization at 25 °C for 20 hours in autoclave, washing, separation and spin coating, film forming, it is the examiner's position to believe that the polyvinylidene fluoride copolymer of Tsutsumi et al would inherently possess the optical properties for scattered-light intensity to be 10 or lower as claimed by applicant. Since USPTO does not have proper means to conduct the experiments, the burden is now shifted to applicant to prove otherwise. *In re Best*, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977); *In re Fitzgerald*, 205 USPQ 594 (CCPA 1980).

(7). As to the 100 to 10,000 parts by wt of organic solvent being mixed with 100 parts by wt of the copolymer in **dependent claim 5**, Tsutsumi et al disclose the solution of polyvinylidene fluoride copolymer has concentration from 0.01 to 20 wt% (Abstract). After converting the range of wt% to the parts based on 100 parts of copolymer, the solvent will be approximately in 400 to 9900 parts based on 100 parts of copolymer.

***Claim Rejections - 35 USC § 103***

(8). Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsutsumi et al (EP-508802A1) in view of Katsurao et al (US006372388B1).

(9). As to the limitation in the **dependent claim 6**, Tsutsumi et al **teach** use of ether as the organic solvent for the vinylidene fluoride copolymer solution( page 3,line 50-51). Tsutsumi et al **do not teach** the use of diethyl carbonate as organic solvent.

(10). However, Katsuro et al **teach** to form a film of vinylidene fluoride copolymer by dissolving the vinylidene fluoride copolymer (electrolyte) in an organic solvent such as propylene carbonate (Col. 7, line 37-50). The organic solvents for the electrolytes may include: propylene carbonate, ethylene carbonate, 1,2-dimethoxyethane, 1,2-dithoxyethane, dimethyl carbonate, diethyl carbonate, diethylene glycol dimethyl ether, and mixture solvents of these., but these are not restrictive (Col. 6, line 44-50). In other words, Katsuro et al disclose the diethyl carbonate, propylene carbonate, ether being functionally equivalent organic solvents for dissolving the vinylidene fluoride copolymer.

(11). Therefore, it would have been obvious at time the invention was made to replace the organic solvent-ether of Tsutsumi et al with organic solvent-diethyl carbonate of Katsurao et al, in view of their recognized functionally equivalent organic solvent for polyvinylidene fluoride copolymer solution, motivated by a reasonable expectation of success. *In re O'Farrell*, 853 F.2d 894, 903, 7 USPQ2d 1673, 1681 (Fed. Cir. 1988).

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ives Wu whose telephone number is 571-272-4245. The examiner can normally be reached on 8:00 - 5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner: Ives Wu

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Date: September 28, 2005

  
DAVID W. WU  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700